

SEQUENCE LISTING

<110> Meyers, Rachel
Hunter, John Joseph

<120> 62112, A NOVEL HUMAN DEHYDROGENASE AND
USES THEREOF

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<150> 60/229,831

<151> 2000-08-31

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Met Ser Gly Cys Gly Leu Phe Leu Arg Thr Thr Ala Ala Ala
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cgt gcc tgc cgg ggt ctg gtg gtc tct acc gcg aac cgg cgg cta ctg 156
Arg Ala Cys Arg Gly Leu Val Val Ser Thr Ala Asn Arg Arg Leu Leu
15 20 25 30

cgc acc agc ccg cct gta cga gct ttc gcc aaa gag ctt ttc cta ggc 204
Arg Thr Ser Pro Pro Val Arg Ala Phe Ala Lys Glu Leu Phe Leu Gly
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aaa atc aag aag aaa gaa gtt ttc cca ttt cca gaa gtt agc caa gat 252
Lys Ile Lys Lys Lys Glu Val Phe Pro Phe Pro Glu Val Ser Gln Asp
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Thr Glu Glu Val Asp Ser Arg Lys Ile Asp Gln Glu Gly Lys Ile Pro
80 85 90

gat gaa act ttg gag aaa ttg aag agc cta ggg ctt ttt ggg ctg caa 396
Asp Glu Thr Leu Glu Lys Leu Lys Ser Leu Gly Leu Phe Gly Leu Gln
95 100 105 110

gtc cca gaa gaa tat ggt ggc ctg ggc ttc tcc aac acc atg tac tca 444
Val Pro Glu Glu Tyr Gly Gly Leu Gly Phe Ser Asn Thr Met Tyr Ser
115 120 125

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Arg Leu Gly Glu Ile Ile Ser Met Asp Gly Ser Ile Thr Val Thr Leu	
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Ala Ala His Gln Ala Ile Gly Leu Lys Gly Ile Ile Leu Ala Gly Thr	
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Glu Glu Gln Lys Ala Lys Tyr Leu Pro Lys Leu Ala Ser Gly Glu His	
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att gca gcc ttc tgc ctc acg gag cca gcc agt ggg agc gat gca gcc	636
Ile Ala Ala Phe Cys Leu Thr Glu Pro Ala Ser Gly Ser Asp Ala Ala	
175 180 185 190	
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Ser Ile Arg Ser Arg Ala Thr Leu Ser Glu Asp Lys Lys His Tyr Ile	
195 200 205	
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Leu Asn Gly Ser Lys Val Trp Ile Thr Asn Gly Gly Leu Ala Asn Ile	
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Phe Thr Val Phe Ala Lys Thr Glu Val Val Asp Ser Asp Gly Ser Val	
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Lys Asp Lys Ile Thr Ala Phe Ile Val Glu Arg Asp Phe Gly Gly Val	
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Thr Asn Gly Lys Pro Glu Asp Lys Leu Gly Ile Arg Gly Ser Asn Thr	
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Cys Glu Val His Phe Glu Asn Thr Lys Ile Pro Val Glu Asn Ile Leu	
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Gly Glu Val Gly Asp Gly Phe Lys Val Ala Met Asn Ile Leu Asn Ser	
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320 325 330	
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Arg Leu Ser Glu Phe Gly Leu Ile Gln Glu Lys Phe Ala Leu Met Ala	
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Gln Lys Ala Tyr Val Met Glu Ser Met Thr Tyr Leu Thr Ala Gly Met	
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ctg gac caa cct ggc ttt ccc gac tgc tcc atc gag gca gcc atg gtg	1212

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385	390	395
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Gln Ile Leu Gly Gly Leu Gly Tyr Thr Arg Asp Tyr Pro Tyr Glu Arg		
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465	470	475
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Val Asp Leu Gly Leu Thr Gly Asn His Gly Val Val His Pro Ser Leu		
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Thr Val Glu Thr Leu Leu Leu Arg Phe Gly Lys Thr Ile Met Glu Glu		
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Met Thr Ala Val Leu Ser Arg Ala Ser Arg Ser Ile Arg Ile Gly Leu		
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Arg Asn His Asp His Glu Val Leu Leu Ala Asn Thr Phe Cys Val Glu		
560	565	570
gct tac ttg cag aat ctc ttc agc ctc tct cag ctg gac aag tat gct		1836
Ala Tyr Leu Gln Asn Leu Phe Ser Leu Ser Gln Leu Asp Lys Tyr Ala		
575	580	585
590		
cca gaa aac cta gat gag cag att aag aaa gtg tcc cag cag atc ctt		1884
Pro Glu Asn Leu Asp Glu Gln Ile Lys Lys Val Ser Gln Gln Ile Leu		
595	600	605
gag aag cga gcc tat atc tgt gcc cac cct ctg gac agg aca tgc tga		1932
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610

615

620

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His	Gln	Ala	Ile	Gly	Leu	Lys	Gly	Ile	Ile	Leu	Ala	Gly	Thr	Glu	
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Lys	Ile	Thr	Ala	Phe	Ile	Val	Glu	Arg	Asp	Phe	Gly	Gly	Val	Thr	Asn
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Val	His	Phe	Glu	Asn	Thr	Lys	Ile	Pro	Val	Glu	Asn	Ile	Leu	Gly	Glu
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Val	Gly	Asp	Gly	Phe	Lys	Val	Ala	Met	Asn	Ile	Leu	Asn	Ser	Gly	Arg
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Phe	Ser	Met	Gly	Ser	Val	Val	Ala	Gly	Leu	Leu	Lys	Arg	Leu	Ile	Glu
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Arg Asp Thr Arg Ile Leu Leu	Ile Phe Glu Gly Thr	Asn Glu Ile Leu	
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Arg Met Tyr Ile Ala Leu Thr	Gly Leu Gln His Ala	Gly Arg Ile Leu	
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Glu Thr Leu Leu Leu Arg	Phe Gly Lys Thr Ile	Met Glu Glu Gln Leu	
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Ala Val Leu Ser Arg Ala	Ser Arg Ser Ile Arg	Ile Gly Leu Arg Asn	
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His Asp His Glu Val	Leu Leu Ala Asn Thr	Phe Cys Val Glu Ala Tyr	
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Asn Leu Asp Glu Gln Ile Lys	Lys Val Ser Gln Gln	Ile Leu Glu Lys	
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55

60

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gag gtg gac tcc cga aaa att gac cag gaa ggg aaa atc cca gat gaa	288
Glu Val Asp Ser Arg Lys Ile Asp Gln Glu Gly Lys Ile Pro Asp Glu	
85 90 95	
act ttg gag aaa ttg aag agc cta ggg ctt ttt ggg ctg caa gtc cca	336
Thr Leu Glu Lys Leu Lys Ser Leu Gly Leu Phe Gly Leu Gln Val Pro	
100 105 110	
gaa gaa tat ggt ggc ctg ggc ttc tcc aac acc atg tac tca aga cta	384
Glu Glu Tyr Gly Leu Gly Phe Ser Asn Thr Met Tyr Ser Arg Leu	
115 120 125	
ggg gag atc atc agc atg gat ggg tcc atc act gtg acc ctg gca gcg	432
Gly Glu Ile Ile Ser Met Asp Gly Ser Ile Thr Val Thr Leu Ala Ala	
130 135 140	
cac cag gct att ggc ctc aag ggg atc atc ttg gct ggc act gag gag	480
His Gln Ala Ile Gly Leu Lys Gly Ile Ile Leu Ala Gly Thr Glu Glu	
145 150 155 160	
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Gln Lys Ala Lys Tyr Leu Pro Lys Leu Ala Ser Gly Glu His Ile Ala	
165 170 175	
gcc ttc tgc ctc acg gag cca gcc agt ggg agc gat gca gcc tca atc	576
Ala Phe Cys Leu Thr Glu Pro Ala Ser Gly Ser Asp Ala Ala Ser Ile	
180 185 190	
cgg agc aga gcc aca cta agt gaa gac aag aag cac tac atc ctc aat	624
Arg Ser Arg Ala Thr Leu Ser Glu Asp Lys Lys His Tyr Ile Leu Asn	
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Gly Ser Lys Val Trp Ile Thr Asn Gly Gly Leu Ala Asn Ile Phe Thr	
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225 230 235 240	
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Lys Ile Thr Ala Phe Ile Val Glu Arg Asp Phe Gly Gly Val Thr Asn	
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Gly Lys Pro Glu Asp Lys Leu Gly Ile Arg Gly Ser Asn Thr Cys Glu	
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Val His Phe Glu Asn Thr Lys Ile Pro Val Glu Asn Ile Leu Gly Glu	
275 280 285	
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Val Gly Asp Gly Phe Lys Val Ala Met Asn Ile Leu Asn Ser Gly Arg	
290 295 300	

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Met	Thr	Ala	Glu	Tyr	Ala	Cys	Thr	Arg	Lys	Gln	Phe	Asn	Lys	Arg	Leu	
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Gln	Pro	Gly	Phe	Pro	Asp	Cys	Ser	Ile	Glu	Ala	Ala	Met	Val	Lys	Val	
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Leu	Gly	Gly	Leu	Gly	Tyr	Thr	Arg	Asp	Tyr	Pro	Tyr	Glu	Arg	Ile	Leu	
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cgt	gac	acc	cgc	atc	ctc	ctc	atc	ttc	gag	gga	acc	aat	gag	att	ctc	1296
Arg	Asp	Thr	Arg	Ile	Leu	Leu	Ile	Phe	Glu	Gly	Thr	Asn	Glu	Ile	Leu	
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cgg	atg	tac	atc	gcc	ctg	acg	ggt	ctg	cag	cat	gcc	ggc	cgc	atc	ctg	1344
Arg	Met	Tyr	Ile	Ala	Leu	Thr	Gly	Leu	Gln	His	Ala	Gly	Arg	Ile	Leu	
					435			440					445			
act	acc	agg	atc	cat	gag	ctt	aaa	cag	gcc	aaa	gtg	agc	aca	gtc	atg	1392
Thr	Thr	Arg	Ile	His	Glu	Leu	Lys	Gln	Ala	Lys	Val	Ser	Thr	Val	Met	
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gat	acc	gtt	ggc	cgg	agg	ctt	cgg	gac	tcc	ctg	ggc	cga	act	gtg	gac	1440
Asp	Thr	Val	Gly	Arg	Arg	Leu	Arg	Asp	Ser	Leu	Gly	Arg	Thr	Val	Asp	
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Leu	Gly	Leu	Thr	Gly	Asn	His	Gly	Val	Val	His	Pro	Ser	Leu	Ala	Asp	
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agt	gcc	aac	aag	ttt	gag	gag	aac	acc	tac	tgc	ttc	ggc	cgg	acc	gtg	1536
Ser	Ala	Asn	Lys	Phe	Glu	Glu	Asn	Thr	Tyr	Cys	Phe	Gly	Arg	Thr	Val	
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Glu	Thr	Leu	Leu	Leu	Arg	Phe	Gly	Lys	Thr	Ile	Met	Glu	Glu	Gln	Leu	
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gta	ctg	aag	cg	gt	gg	cc	aa	cc	at	atg	gag	gag	cag	ct	1632	
Val	Leu	Lys	Arg	Val	Ala	Asn	Ile	Leu	Ile	Asn	Leu	Tyr	Gly	Met	Thr	
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580	585	590	
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Asn Leu Asp Glu Gln Ile Lys Lys	Val Ser Gln Gln Ile Leu Glu Lys		
595	600	605	
cga gcc tat atc tgt	gcc cac cct ctg gac agg aca tgc		1863
Arg Ala Tyr Ile Cys Ala His Pro Leu Asp Arg	Thr Cys		
610	615	620	

THE CIVIL WAR IN GEORGIA